

What is claimed is:

1. An electrochemical cell apparatus, comprising:
  - a) a base having a first portion and a second portion and a plurality of wells defined in said base, extending from said first portion to said second portion, for defining a plurality of electrochemical cells commonly supported by said base;
  - b) at least two electrodes sealingly disposed in each electrochemical cell;
  - c) a printed circuit board adjoining said second portion having defined thereon an individually addressable electrical communication path for electrically interfacing with each of said electrochemical cells;
  - d) circuitry for providing an electrical connection between an electrical source and said electrodes in each said cell via said printed circuit board.
2. An electrochemical cell apparatus, comprising:
  - a) a base having a first portion and a second portion and a plurality of wells defined in said base, extending from said first portion to said second portion, for defining a plurality of electrochemical cells commonly supported by said base;
  - b) at least two electrodes sealingly disposed in each electrochemical cell;
  - c) a printed circuit board adjoining said second portion having defined thereon an individually addressable electrical communication path for electrically interfacing with each of said electrochemical cells;
  - d) power source; and
  - e) circuitry for providing an electrical connection between said power source and said electrodes in each said cell via said printed circuit board.
3. An electrochemical cell apparatus, comprising:
  - a) a base having a first portion and a second portion and at least eight wells defined in said base and having an associated first threaded

portion, extending in an axial direction from said first portion to said second portion, for defining a plurality of electrochemical cells commonly supported by said base;

- b) a sheath assembly having an associated second threaded portion for engaging said first threaded portion and projecting into each of said wells a first sheath and a second sheath, each having a longitudinal axis;
- 5 c) a reference electrode in said first sheath for sealing disposition in each electrochemical cell generally in said axial direction;
- d) a counter electrode in said second sheath for sealing disposition 10 in each electrochemical cell generally in said axial direction and generally parallel with said reference electrode;
- e) a printed circuit board adjoining said second portion having defined thereon an individually addressable electrical communication path, including individual traces electrically connecting with a working electrode 15 corresponding to each of said wells for electrically interfacing with each of said electrochemical cells;
- f) a potentiostat/galvanostat; and
- g) circuitry for providing an electrical connection between said potentiostat/galvanostat and said electrodes in each said cell via said printed 20 circuit board.

4. The apparatus of claim 1, further comprising said electrical source and wherein said electrical source is a multi-channel potentiostat/galvanostat.

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5. The apparatus of claim 1, wherein said electrodes include a working electrode and a counter electrode.

30 6. The apparatus of claim 5, further comprising a reference electrode.

7. The apparatus of claim 1, wherein said individually addressable electrical communication path includes a substantially circular metal conductor.

8. The apparatus of claim 2, wherein said printed circuit board is separately fabricated from said base.

5 9. The apparatus of claim 2, wherein a threaded assembly is employed for projecting disposition of electrodes into said well.

10 10. The apparatus of claim 2, wherein said electrodes include a working electrode and a counter electrode.

11. The apparatus of claim 10, further comprising a reference electrode.

12. The apparatus of claim 10, wherein said working electrode is supported on a surface of a support member in spaced relation to said printed circuit board.

13. The apparatus of claim 12, further comprising a second printed circuit board for contacting at least one of said electrodes.

20 14. The apparatus of claim 3, wherein said potentiostat/galvanostat is a multi-channel potentiostat/galvanostat.

15. The apparatus of claim 3, wherein said traces originate at a multi-pin connector on said printed circuit board.

25 16. The apparatus of claim 3, wherein said longitudinal axes of each of said sheaths are generally parallel to each other.

30 17. The apparatus of claim 3, wherein said circuitry connects to said multi-pin connector with a ribbon cable.

18. The apparatus of claim 3, wherein said individually addressable electrical communication path includes a substantially circular metal conductor.

5 19. The apparatus of claim 3, further comprising a second printed circuit board for contacting at least one of said electrodes.

20. The apparatus of claim 18, wherein said printed circuit boards are disposed in generally opposing relation to each other.

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